

Appl. No. 09/998,594

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please cancel claims 24, 25 and 32-34, amend claim 23, and add new claims 35-37 as follows:

Listing of Claims:

1. A method of identifying a plurality of substantially identical integrated circuits formed on a common substrate, comprising the steps of:

programming each of the integrated circuits with respective electronic identification information distinguishing the integrated circuits from one another; and

marking each of the integrated circuits with respective optical identification code which corresponds with the respective electronic identification information;

reading the optical identification code on each of the integrated circuits; and

accessing a lookup table to associate the optical identification code on each of the integrated circuits with the corresponding electronic identification information.

2. The method of claim 1 wherein the step of programming each of the integrated circuits with electronic identification information includes the step of programming one of a plurality of programmable links.

3. The method of claim 1 wherein the step of marking each of the integrated circuits with optical identification code includes the step of placing an adhesive label on each of the integrated circuits.

4. The method of claim 1 wherein the step of marking each of the integrated circuits with optical identification code includes the step of inscribing a symbol on each of the integrated circuits.

Appl. No. 09/998,594

5. The method of claim 1 wherein the step of marking each of the integrated circuits includes the step of marking respective portions of the substrate on which the integrated circuits are formed.

6. In a plurality of substantially identical integrated circuits formed on a common substrate, each of the integrated circuits including a programmable circuit for storing respective electronically readable identification code which distinguishes the integrated circuits from one another, a method of identifying the integrated circuits, comprising the steps of:

marking each of the integrated circuits with respective optical identification code;
accessing a lookup table to associate the optical identification code on each of the integrated circuits with the respective electronically readable identification code and
reading the optical identification code on each of the integrated circuits.

7. The method of claim 6 wherein the step of associating the optical identification code on each of the integrated circuits with the respective electronically readable identification code includes the steps of:

reading the electronically readable identification code stored in each of the integrated circuits;

reading the optical identification code marked on each of the integrated circuits;
and

correlating the read electronically readable identification code with the read optical identification code for each of the integrated circuits.

8. The method of claim 6 wherein the step of associating the optical identification code on each of the integrated circuits with the respective electronically readable identification code includes the step of encoding identical data in the optical and electronically readable identification codes.

9. The method of claim 6 wherein the step of marking each of the integrated circuits includes the step of marking respective portions of the substrate on which the integrated circuits are formed.

Appl. No. 09/998,594

10. A wafer comprising a plurality of dies, each die including an integrated circuit having a programmable identification circuit that stores identification data, and each die having an optical identification mark positioned thereon and encoding information corresponding to the identification data, optical identification mark on each die being accessed through a lookup table to correspond to the electronic identification information.

11. The wafer of claim 10 wherein the programmable identification circuit includes a plurality of programmable links.

12. The wafer of claim 10 wherein the optical identification mark encodes information identical to the identification data.

13. The wafer of claim 10 wherein the identification data uniquely distinguishes each of the dies.

14. A plurality of integrated circuit chips, each comprising:
a housing;

an integrated circuit enclosed within the housing and including an identification circuit that stores identification data distinguishing each of the integrated circuit chips from one another; and

an optical mark positioned on an exterior surface of the housing and encoding identification information being accessed through a lookup table to correspond to the identification data.

15. The integrated circuit chips of claim 14, further comprising electrical contacts connected to said housing and adapted to provide electrical connection between the integrated circuit and circuitry external to the housing.

16. The integrated circuit chips of claim 14 wherein the optical mark is a first optical mark encoding first identification information, and further comprising a second optical

Appl. No. 09/998,594

mark positioned on the integrated circuit enclosed within the housing and encoding second identification information corresponding to the identification data.

17. The integrated circuit chips of claim 16 wherein the first identification information is identical to the second identification information.

18. The integrated circuit chips of claim 14 wherein the identification information is the same as the identification data.

19. A method of identifying a plurality of substantially identical integrated circuits formed on a common substrate, each of the integrated circuits being formed on a respective one of a plurality of substrate dies, the method comprising:

programming each of the plurality of integrated circuits with respective electronic identification information for each of the integrated circuits; and

marking each of the dies with optical identification code which corresponds with the respective electronic identification information;

reading the optical identification code on each of the integrated circuits;

reading the electronic identification information from each of the integrated circuits; and

accessing a lookup table to associate the optical identification code on each of the integrated circuits with the corresponding electronic identification information.

20. The method of claim 19 wherein the electronic identification information is distinct for each of the integrated circuits.

21. The method of claim 19 wherein the optical identification code is distinct for each of the dies.

22. The method of claim 19 wherein the optical identification code and the electronic identification information include identical data.

Appl. No. 09/998,594

23. (Amended) A method of identifying an integrated circuit, comprising:
programming the integrated circuit with an electronic identification information;
and

marking the integrated circuit with an optical identification code that corresponds
with the electronic identification information;

reading the electronic identification information; and

cross-referencing the optical identification code with the read electronic
identification information to associate the optical identification code with the corresponding
electronic identification information, the act of cross-referencing the optical identification code
with the read electronic identification information comprising:

reading the optical identification code; and

cross-referencing the read optical identification code with the read
electronic identification information.

24-25. (Cancelled)

26. The method of claim 23 wherein the act of programming the integrated
circuit with electronic identification information comprises programming at least one of a
plurality of programmable links.

27. The method of claim 23 wherein the act of marking the integrated circuit
with an optical identification code includes the step of placing an adhesive label on the integrated
circuit.

28. In an integrated circuit which includes a programmable circuit for storing
an electronically readable identification code which identifies the integrated circuit, a method of
identifying the integrated circuit, comprising the steps of:

marking the integrated circuit with an optical identification code;

reading the electronically readable identification code; and

Appl. No. 09/998,594

comparing the optical identification code with the read electronically readable identification code to associate the optical identification code with the electronically readable identification code.

29. The method of claim 28 wherein the act of comparing the read electronically readable identification code with the optical identification code comprises:

creating a look-up table that associates the optical identification code for each of a plurality of integrated circuits with an optical identification code; and

accessing the look-up table.

30. The method of claim 29 wherein the act of creating a look-up table that associates the optical identification code for each of a plurality of integrated circuits with an optical identification code comprises creating a look-up table that uniquely associates the optical identification code for each of a plurality of integrated circuits with an optical identification code.

31. The method of claim 29 wherein the act of creating a look-up table that associates the optical identification code for each of a plurality of integrated circuits with an optical identification code comprises creating a look-up table that uniquely associates the optical identification code for each of a plurality of integrated circuits with an optical identification code.

32-34. (Cancelled)

35. A method of identifying an integrated circuit, comprising:
programming the integrated circuit with an electronic identification information;
and

marking the integrated circuit with an optical identification code that corresponds with the electronic identification information;

reading the electronic identification information; and

Appl. No. 09/998,594

cross-referencing the optical identification code with the read electronic identification information by accessing a lookup table containing the optical identification code and the read electronic identification information to associate the optical identification code with the corresponding electronic identification information.

36. The method of claim 35 wherein the act of programming the integrated circuit with electronic identification information comprises programming at least one of a plurality of programmable links.

37. The method of claim 35 wherein the act of marking the integrated circuit with an optical identification code includes the step of placing an adhesive label on the integrated circuit.